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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/653,788	09/01/2000	Stephen F. Smith	25016-49	5601
25094	7590	03/24/2004	EXAMINER	
GRAY, CARY, WARE & FREIDENRICH LLP 1221 SOUTH MOPAC EXPRESSWAY SUITE 400 AUSTIN, TX 78746-6875			TRAN, KHAI	
			ART UNIT	PAPER NUMBER
			2631	13
DATE MAILED: 03/24/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/653,788

Applicant(s)

SMITH ET AL.

Examiner

KHAI TRAN

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24, 27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) 25, 26 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 9-14, 17, 18, 27 and 28 is/are rejected.
- 7) ☒ Claim(s) 6, 8, 15, 16 and 19-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3, 4, 5</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restriction***

I. Applicant's election with traverse of the invention of group I including claims 1-12, 13-24, and 27-28 in Paper No. 5 is acknowledged. Applicant's traversal the restriction by merely stating that "the traverse is based on the fact that examination of all claims would not be a burden on the Office despite their possible disparate classification(s) " without distinctly and specifically pointing out the supposed errors in the restriction requirement is not found persuasive. Thus, the requirement is still deemed proper and is therefore made FINAL.

1. Claims 25-26, 29 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected and they should be canceled.

### ***Specification***

1. The disclosure is objected to because of the following informalities:  
Page 16, line 15, the blank space of the U.S. Applicant No. should be provided.  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 9-12, 14, 17-18, 28 are rejected under 35 U.S.C. 102(b) as being anticipated by DaSilva (U.S. Pat. 5,105,168).

4. Regarding claims 1, 2, 12, DaSilva discloses an improved digital data receiver synchronization apparatus as shown in Figure 3, comprising: a plurality of memory devices (a vector locked loops (10) having two phase locked loops (PLLs) (col. 3, lines 31-42)) for receiving multiple timing signals (64, 66); feedback means (32, 36) interconnecting the memory devices and cross-coupling signals (48, 58) produced by the memory device; a common frequency reference source (i.e., a reference signal, col. 3, lines 27-29) in communication with the plurality of memory devices for driving the plurality of memory devices.

Regarding 3, DaSilva discloses wherein the multiple timing signals includes at least one signal selected from the group consisting of an RF carrier signal, a data bit-rate signal, a data chip-rate signal, a data frame-rate signal, and a data burst-or packet-rate signal (the vector locked loop is as a RF power amplifier (col. 6, lines 33-34), therefore, it is an FR carrier signal).

Regarding claims 4-5, DaSilva discloses that the vector locked loop (10) is somewhat similar to two cross-coupled phase locked loops, where both magnitude and phase are used as feedback signals (col. 3, lines 31-34) and DaSilva also discloses that the output signal will track the phase, frequency, and amplitude of the input signal. Therefore, the multiple timing signals are integrally or fractionally related in frequency, phase or both frequency and phase; and rationally multiply related in frequency and/or phase.

Regarding claim 9, DaSilva discloses wherein the signal cross-coupled by the feedback means include at least one signal selected from the group consisting of error signals, output signals, and both error and output signals (see Fig. 3).

Regarding claims 10-11, DaSilva discloses both magnitude and phase are used as feedback signals. Therefore, analog and digital signals are inherently included in the magnitude and phase signals.

Claims 14, 17 are similar to claims 3, and 9. Therefore, claims 14, 17 are rejected under a similar rationale.

Regarding claim 18, DaSilva discloses the phase-frequency detector being a digital phase-frequency detector (Fig. 3).

Claim 28 is similar to claim 2. Therefore, claim 28 is rejected under a similar rationale.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7, 13, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over DaSilva (U.S. Pat. 5,105,168) in view of Lee (U.S. Pat. 5,568,078).

7. Regarding claim 7, DaSilva fails to disclose wherein the common frequency reference is an oscillator by a crystal, SAW device, ceramic resonator, mechanical resonator, dielectric resonator, or external source.

Lee discloses an oscillating output unit 1 as shown Fig. 2, for generating an external clock signal (as an external clock source). It would have been obvious to one having ordinary skill in the art at the time invention was made to utilize the external source for generating a reference frequency in order to enable the phase detector to compare the feedback signal with the reference frequency for reducing error rate.

Claim 13 is similar to claims 1 and 7. DaSilva also discloses the phase locked loop comprising phase-frequency detectors (34, 38). Therefore, claim 13 is rejected under a similar rationale.

Claim 27 is similar to claims 1 and 13. Therefore, claim 27 is rejected under a similar rationale.

#### ***Allowable Subject Matter***

8. Claims 6, 8, 15-16, 19-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jaffe et al (U.S. Pat. 3,723,718) disclose a simulation through rotating coordinate transformation.

Parakash et al (U.S. Pat. 5,717,730) disclose a multiple monolithic phase locked loops.

Takeuchi (U.S. Pat. 6,239,729) discloses an image processor and integrated circuit for the same.

Kurd (U.S. Pat. 6,469,550) discloses a method and an apparatus for skew measure and dynamic skew and jitter error compensation.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (703)305-1876.


The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on (703)306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**KHAI TRAN**  
**PATENT EXAMINER**

***KT***  
***March 18, 2004***